

Applicant : Laurence E. Allen III
Serial No. : 10/775,613
Filed : February 9, 2004
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Attorney's Docket No.: 10887-009602

Amendments to the Specification:

Please replace the paragraph beginning at page 13, line 17 with the following amended paragraph:

Surface contamination by fine particles can be particularly problematic. FIG. 2A illustrates an atomic force micrograph of the surface of a microtomed section of an injection molded acrylonitrile butadiene styrene (ABS) plastic specimen. The atomic force microscopy was performed in the normal tapping mode. The atomic force micrograph in FIG. 2A shows surface holes and contours of several different sizes. Holes 205 from pigment particles are seen to be generally less than 2 microns, rubber domains 210 within the ABS are generally less than 0.5 microns and surface grooves and contours are generally less than 5 microns. Though the contours in the AFM are from a microtome it may be concluded that plastic granulation would also produce similar contours. As shown in FIG. 2B, media particles 215 with sizes greater than 5 microns are substantially less likely to be able to find a location at which to adhere to the surface, while a media particle less than 5 microns, such as a media particle 220 that is 3 microns in diameter, may be able to fit into a 3 micron void 225. Thus, a particulate media used in a slurry to sort mixture particles which contains a greatly reduced number of media particles less than 5 microns should be less likely to contaminate the plastic surface. Washing samples of plastic in slurries which contain greater and lesser amounts of media particles less than 5 microns demonstrates that the plastics washed with slurries with particles smaller than 5 microns have higher contamination rates than plastics washed with slurries including particles greater than 5 ~~microns~~ microns. The fewer fine media particles present, the less the slurry tends to contaminate the plastic surface.

Please replace the paragraph beginning at page 20, line 19 with the following amended paragraph:

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When the second stage overflow-fed separator is a cylindrical vortex separator, a dewatering screen unit can be placed on the underflow discharge from the second stage overflow-~~[[]]~~fed separator to equalize the density and allow sufficient flow for the three feeds.

Please replace the paragraph beginning at page 20, line 22 with the following amended paragraph:

The fluid removed with this dewatering box is sent to the headbox for the second stage underflow-fed separator. Adding this fluid supplements the feed into the underflow-fed separator and enables the second stage underflow unit to operate, particularly if a slurried dense media is used as the separation fluid. If no fluid is added to the second stage underflow-fed separator, the separation density at the second stage underflow-fed separator is higher than in the first stage separator and the underflow-fed separator. Thus, the fluid from the large volume discharge of the second stage overflow-fed separator corrects the density of the feed into the second stage underflow-fed separator and allows a second separation stage at the same or similar density as the first stage separator. No correction is needed for the second stage overflow if the first separator is a hydrocyclone, because the majority of fluid flows from the first stage to this unit in any case. A de-watering screen ~~or~~ screener unit actually removes fluid as opposed to merely removing water. This fluid contains the density adjusting slurried media which has a much finer particle size than the openings on a standard dewatering screener. The openings on such a dewatering screener are generally larger than 1000 microns.

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